REMARKS

Reconsideration and withdrawal of the rejections set forth in the Office Action are respectfully requested in view of this amendment and the following reasons. Claims 68-93 have been amended. Claims 68-93 are pending in this application.

Claim 68 has been amended to clarify that: (1) the head portion comprises a connector; (2) the connector is designed to facilitate charging; and (3) the tethering cable is of sufficient length to allow the head portion to float on the surface of the pool while the body unit is on the floor of the pool.

Claim 79 has been amended to clarify that the stored orientation of the robot is in relation to a fixed direction.

Claim 80 has been amended to clarify that the orientation referred to is the stored orientation recited in claim 79.

Claim 84 has been amended to clarify that the robot operates independently of the shape of the swimming pool.

Claim 88 has been amended to clarify that the reference orientation is in relation to a fixed direction.

Claim 89 has been amended to clarify that the orientation referred to is the reference orientation recited in claim 90.

Claim 92 has been amended to clarify that the robot comprises means to detect its orientation in relation to a fixed direction.

In addition to the above, claims 68-93 have been amended to correct informalities and/or for consistency.

Support for these features is found in the claims and specification of the present application as originally filed. It is respectfully submitted that the above amendments introduce no new matter within the meaning of 35 U.S.C. §132. For at least these reasons, entry of the present Amendment is therefore respectfully requested. Accordingly, Applicant requests reconsideration and timely withdrawal of the pending rejections for the reasons discussed below.

Rejections Under 35 U.S.C. §102

Claims 68-70 and 72-92 stand rejected under 35 U.S.C. §102(b) as being allegedly anticipated by U.S. Patent No. 6,842,931 issued to Porat, *et al.* ("Porat"). Applicant respectfully traverses this rejection for at least the following reasons.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim." *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Col.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)).

Claim 68 of the present application defines a pool cleaning robot being free, when in use, of any cables connected to an external power supply, and having:

> a body unit with a battery power pack, adapted to move along the floor and/or walls of the pool;
> a tail unit comprising a head portion adapted to float on the surface of the pool while the body unit is on the floor of the pool;
> the head portion comprising a connector designed for facilitating charging batteries or battery in the battery power pack by an external charger; and:
> a tethering cable attached, at least in use to the body unit, the tethering cable being of sufficient length to allow the head portion to float on the surface of the pool while the body unit is on the floor of the pool.

The Examiner cites Col. 1, lines 11-35 of Porat as anticipating the head portion, and Col. 1, lines 23-35 as anticipating the tethering cable. Applicant respectfully disagrees. As a preliminary matter, Applicant respectfully submits that the passages cited by the Examiner are from the background section of Porat, and are not related to the robot described therein. Rather, the Porat robot does not comprise any element separate from the body which is configured to float at the surface of the pool while the body unit is on the floor of the pool. While floating cases are described as carrying batteries in the background section, one of the objects of Porat's disclosure (*See* Col. 2, lines 20-23) is to provide a robot having an integral, i.e., internal, battery. The integral battery, in the reference, means

"a battery that is secured to the moving pool cleaner, preferably on the interior of the housing, and is to be distinguished from a battery that is tethered to the moving pool cleaner as by a power cable extending away from the pool cleaner to a floating battery housing, or an otherwise remotely positioned battery" (*See* Col. 1, lines 29-35). Thus, Col. 1, lines 11-35 of Porat, which the Examiner believes teaches the tail unit and tethering cable recited in claim 68, is not combinable with the Porat robotic cleaner shown in Fig. 1. Porat teaches away from providing claim 68's tail unit.

Furthermore, Porat, Col. 1, lines 11-35 does not disclose a tail unit as defined in claim 68. While this passage describes that a floating case comprises a battery, which is attached to the pool cleaning robot (corresponding to the "body unit" of claim 68) by a power cord. Claim 1 is distinguished over this disclosure for at least the following reasons:

(1) The passage does not disclose or suggest that the floating case comprises a "connector designed for facilitating charging batteries," as recited in claim 68.

(2) It is implicit from the Porat disclosure that a floating case with batteries is provided in order to obviate the need for a battery internal to the body unit of the robot. Thus, even if the Examiner would take the position that the cited passage discloses a tail unit as defined in claim 68, it would not disclose, and in fact teaches away from, a body unit with a battery pack defined in the same claim.

Moreover, Porat, Col. 1, lines 23-35 does not disclose a tethering cable which is "of sufficient length to allow the head portion to float on the surface of the pool while the body unit is on the floor of the pool," as recited in claim 68. The motivation given by Porat for providing an external battery in a floating case is to "[eliminate] or substantially [reduce] problems associated with twisting of the power cable which occurs with a remote stationary power supply unit as the pool cleaner traverses the bottom of the pool." This alone does not provide the motivation to provide a long power cord between the floating case and the body unit. Actually, it teaches away from providing a long cord, as an increase in the length of the cord (i.e., sufficient to reach the surface of the pool) is associated with an increased likelihood of experiencing problems in association with twisting of the power cable, as well

as increased severity of such a problem.

Applicant submits that claims 69, 70, and 72-87 depend directly or indirectly from claim 68, and thus are allowable for at least this reason. However, at least some of these dependent claims are patentable even in view of their own recited features, as follows:

Claim 73, reciting that "wherein the tail unit further comprises a tail unit controller in communication with the main controller," stands rejected as being anticipated by elements 94 and 95 in Fig. 7 of Porat. Applicant notes that it is reasonably interpreted from claim 68 that the tail unit is separate from the body unit that contains the battery pack. Thus, claim 68's tail unit controller is external to the body unit. In contrast to this claimed feature, Porat's microprocessor 80, as illustrated in Fig. 7, which carries elements 94 and 95, is internal to the robot's body unit (as noted above, the Porat robot does not even comprise a floating tail portion). *See* Porat, for example, Col. 8, lines 26-47. The only portion of the robot which is floating is an antenna for a GPS (*See* Col. 8, lines 37-40). This antenna, however, does not comprise a controller. Accordingly, claim 73 is allowable over Porat even in view of its own feature.

Claim 75, reciting that "wherein said tail unit further comprises at least one data presentation device," stands rejected as being anticipated by Porat, Col. 9, lines 10-14. Applicant notes that this passage discloses merely a display, however, fails to disclose or suggest that the display is a part of a floating interface. Accordingly, claim 75 is allowable over Porat even in view of its own feature.

Claim 76, reciting that "further comprising an external battery charger, which is connectable to the tail unit for charging at least one battery in said battery power pack in the body unit of the robot," stands rejected as being anticipated by Porat, Fig. 1. Applicant notes that, since Porat does not teach the tail unit, as noted above, the reference fails to teach a battery charger as recited in claim 76. Accordingly, claim 76 is allowable over Porat even in view of its own feature.

Claim 77, reciting that "wherein the charger is adapted to communicate with the tail unit via a cable, and wherein another cable is used for connecting the tail unit with said

battery power pack," stands rejected as being anticipated by element 56 in Fig. 1 of Porat. Applicant notes that there is only one cable illustrated and described in Fig. 1 and its corresponding description in Col. 5, lines 49-67. Accordingly, claim 77 is allowable over Porat even in view of its own feature.

Claim 78, reciting that "wherein the charger comprises at least one charger-side data presentation unit," stands rejected as being anticipated by Porat, Col. 10, lines 34-37 and Col. 9, lines 10-14. Applicant notes that these passages refer to elements within the robot while claim 76's charger must be "external." Accordingly, claim 78 is allowable over Porat even in view of its own feature.

Claim 79, reciting that "the robot having a memory adapted to store a certain orientation of the robot in relation to a fixed direction, said controller being adapted to provide the robot with a command to align its orientation in accordance with the stored orientation," stands rejected as being anticipated by Porat, Col. 10, lines 30-33. Applicant notes that moving a robot in a rectilinear path does not necessarily mean that an orientation of the robot is stored. One of ordinary skill in the art would easily appreciate that a robot can be programmed to rotate through 90°, for example, without storing its orientation. In addition, as noted above, claim 79 has been amended to clarify that the orientation is *in relation to a fixed direction*: this feature is certainly not disclosed or suggested in Porat as the robot is programmed to move in a rectilinear path. Similar reasoning is applied to the rejection of claim 80. Accordingly, claims 79 and 80 are allowable over Porat even in view of their own features.

Claim 82, reciting that "...whereby when the current exceeds a threshold, the controller assumes a wall impact to have occurred," stands rejected as being anticipated by elements 86, 92, and 94 in Fig. 6 of Porat. Applicant notes that these elements are not taught to determine, based on the level of current through the drive means, that a wall impact has occurred. Actually, no teaching or suggestion about how the wall sensor 92 works is found in Porat. Similar reasoning is applied to the rejection of claim 83. Accordingly, claims 82 and 83 are allowable over Porat even in view of their own features.

Claim 84, reciting that "wherein the controller is adapted to allow the robot to perform a straight lap and a subsequent stepped lap, each between two wall detections, both laps comprising said alignment, the stepped lap also including rotation of the robot through a predetermined angle relative to its orientation during the straight lap, whereby the robot is adapted to move along two known mutually angled directions independently of the shape of the walls of the swimming pool," stands rejected as being anticipated by Porat, Col. 7, lines 48-55. Applicant notes that Porat's disclosure assures that the robot can move along two mutually angled directions, in this case 90°, only when the pool is rectilinear since it does not store its orientation in relation to a fixed direction. Thus, the move of the Porat robot is dependent on the shape of the pool, and not independent thereof, as recited in claim 84. Accordingly, claim 84 is allowable over Porat even in view of its own feature.

Claim 84 stands rejected as being anticipated by several passages in Porat. Applicant notes that Porat does not disclose ascending the sidewalls at all. Rather, according to the Porat teaching, reference is made in several places to reversing direction after a sidewall has been detected, and not climbing it. *See* Porat, for example, Col. 7, lines 26-39, and Col. 8, lines 1-20. Accordingly, claim 84 is allowable over Porat even in view of its own feature.

In connection with the Examiner's rejection of claims 88-90, Applicant respectfully submits that the claims are allowable for at least the reason applied to the claim 79 rejection.

With respect to claim 92, Applicant respectfully submits that the Examiner fails to establish a *prima facie* case of obviousness. This claim is referred to in the Office Action, section 4, second paragraph (spanning pages 2 and 3 thereof). However, the feature "the robot comprising a means for detecting its orientation in relation to a fixed direction," recited in claim 92, is not referred to at all. In any event, the allowability of the claim feature has been discussed above. In addition, arguments presented above with regard to claim 68 is applied to claim 92 as well, *mutatis mutandis*. Accordingly, claim 92 is allowable over Porat even in view of its own feature.

Accordingly, Applicant respectfully requests withdrawal of the 35 U.S.C. §102(b) rejection of claims 68 and 92. Claims 69, 70, and 72-91 depend from claim 68 and are allowable for at least this reason. Since none of the other prior art of record discloses or suggests all the features of the claimed subject matter, Applicant respectfully submits that independent claims 68 and 92, and all the claims that depend therefrom, are allowable.

Rejections Under 35 U.S.C. §103

1. Claim 71 stands rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Porat in view of Thrun, *et al.*, "Probabilistic Algorithms and the Interactive Museum Tour-Guide Robot Minerva" ("Thrun"). Applicant respectfully traverses this rejection for at least the following reasons.

Claim 71 depends from claim 68 and Thrun fails to cure the deficiencies of Porat noted above with regard to claim 68. In other words, even if one of ordinary skill in the art happens to combine the teachings of Porat and Thrun, the combined references still do not disclose every single feature recited in claim 68 because Thrun is cited by the Examiner in an sole purpose to teach the robot "adapted to stop at a predetermined location when a predetermined number of wall encounters occur after the battery voltage drops below a predetermined amount" recited in claim 71. Hence, claim 71 is allowable at least because it depends from allowable claim 68.

2. Claim 93 stands rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Porat in view of U.S. Patent No. 7,144,057 issued to Young, *et al.* ("Young"). Applicant respectfully traverses this rejection for at least the following reasons.

Claim 93 depends from claim 92 and Young fails to cure the deficiencies of Porat noted above with regard to claim 92. In other words, even if one of ordinary skill in the art happens to combine the teachings of Porat and Young, the combined references still do not disclose every single feature recited in claim 92 because Young is cited by the Examiner in an sole purpose to teach that the means is "a digital compass integrated onto the

controller" recited in claim 92. Hence, claim 93 is allowable at least because it depends from allowable claim 92.

Accordingly, Applicant respectfully requests withdrawal of the 35 U.S.C. §103(a) rejection of claims 71 and 93. Claims 71 and 93 depend from claims 68 and 92, respectively, and are allowable for at least this reason. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed subject matter, Applicant respectfully submits that independent claims 68 and 92, and all the claims that depend therefrom, are allowable.

CONCLUSION

Applicant believes that a full and complete response has been made to the pending Office Action and respectfully submits that all of the stated grounds for rejection have been overcome or rendered moot. Accordingly, Applicant respectfully submits that all pending claims are allowable and that the application is in condition for allowance.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicant's undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,
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